DOCUMENT RESUME

ED 097 401 UD 014 590

AUTHOR Ogbu, John U.
TITLE Social Structure and Cognitive Behavior: A Critique of the Heredity-Environment Hypothesis and an Alternative Interpretation of Black-White Differences in IQ.
PUB DATE Mar 74
NOTE 43p.; Paper presented at the Annual Meeting of the Society for Applied Anthropology (Boston, Massachusetts, March 1974)

EDRS PRICE MF-$0.75 HC-$1.85 PLUS POSTAGE
DESCRIPTORS Cognitive Development; Cognitive Processes; Educational Problems; Employment Opportunities; Environmental Influences; Family Influence; Genetics; Heredity; *Intelligence Differences; Nature Nurture Controversy; *Racial Differences; *Racial Discrimination; Racism; *Sex Differences; Social Influences; *Social Structure

ABSTRACT

This paper deals with the issue of black-white differences in cognitive skills. Some authorities attribute these differences to differences in the environments of black and white homes. Others state that the differences are due to differences in genes, i.e., heredity. Scholars holding these two opposing views have become more or less entangled in an endless debate since Jensen published his article in 1969. The purpose of this paper is to suggest an alternative, structural explanation. The hypothesis proposed here is that black-white differences are due to adaptation to different cognitive requirements of their respective positions in the American caste system. In particular, it argues that the ascribed status of blacks which restricts them from participating in higher levels of American techno-economic organization has resulted in blacks evolving patterns of cognitive skills which are different from those developed by white Americans. This hypothesis has the advantage in that it can be applied to explain the observed differences between black males and black females as well as to minority-majority differences in other societies where similar pariah groups exist. Its significance for social policy lies in the fact that it identifies the cause rather than the symptoms of black educational problems. (Author/JM)

Draft - Not for publication

BEST COPY AVAILABLE

ED 097401

33rd Annual Meeting of the Society For Applied Anthropology
Boston, Massachusetts
March 14-16, 1974

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

SOCIAL STRUCTURE AND COGNITIVE BEHAVIOR

A Critique of the Heredity-Environment Hypothesis And an Alternative Interpretation of Black-White Differences in IQ

PERMISSION TO REPRODUCE THIS COPYRIGHTED MATERIAL HAS BEEN GRANTED BY
John U. Ogbu
TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE NATIONAL INSTITUTE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER

John U. Ogbu

Carnegie Council on Children
285 Prospect Street
New Haven, Conn. 06520

UD 014 [illegible]

INTRODUCTION

The Problem

This paper deals with the issue of Black-White differences in cognitive skills. There is abundant evidence that in the United States Blacks generally score lower than Whites in IQ tests (Dreger 1973; Jensen 1969). The same is true of their academic performance (L'Abate, Oslo, and Stone 1973; Jensen 1969). Some authorities attribute these differences in IQ and school performance to differences in the environments of Black and White homes (Deutsch 1967; Hunt 1969). Others state that the differences in IQ and school performance are due to differences in genes, i.e. heredity (Garrett 1971; Ingle 1970; Jensen 1969, 1973). Scholars holding these two opposing views i.e. hereditists and environmentalists, have become more or less entangled in an endless debate since Jensen published his article (1969), "How Much Can We Boost IQ and Scholastic Achievement?" In that article Jensen cogently argued the case for the heredity hypothesis. His opponents have responded with equally cogent articles for the environment point of view.

Purpose of Paper

The purpose of my paper is to suggest an alternative, structural, explanation of the Black-White differences in IQ. The hypothesis I am proposing is that Black-White differences in IQ are due to adaptation to different cognitive requirements of their respective positions in the American caste system.

In particular, I wish to argue that the ascribed status of Blacks which restricts them from participating in higher levels of American techno-economic organization has resulted in Blacks evolving patterns of cognitive skills which are different from those developed by White Americans. This hypothesis has the advantage in that it can be applied to explain the observed differences between Black males and Black females as well as to minority-majority differences in other societies where similar pariah groups exist.[1] Its significance for social policy lies in the fact that it identifies the cause rather than the symptoms of Black educational problems.

The Need For Another Approach

There are several reasons why another approach is needed for understanding the reasons for the lower performance of Black children in IQ and academic achievement tests. But let me mention here three specific reasons why I am not satisfied with the heredity-environment hypotheses. The first is that the debate between these two opposing views is not easily resolved because they are based on fundamentally opposed, though unexpressed, views of human nature: the one believes that human nature is fixed and cannot be changed; the other believes to the contrary that it is changeable. This situation provides little comfort for those who are trying to find ways to improve Black school performance.

---

[1] Such comparisons will not necessarily be carried out in this paper.

The second reason for my dissatisfaction is that it is difficult for an outsider to separate in this heredity-environment debate "scientific rationalization" of American cultural beliefs and practices from "objective" scientific inquiry. A historical survey of the literature relating to group differences in IQ in the United States, particularly those dealing with Black-White differences, creates skepticism over the current claims for the heredity and environment hypotheses. It should be remembered that the concept of intelligence originated in the second half of the 19th century when various physical traits such as skin color and the color of the eyes as well as various psychological traits were attributed to genes and instincts, i.e. regarded as fixed and inherited traits (Brookover and Erickson 1965: 6-7). Although Alfred Binet did not base his intelligence tests on such biological theories, American tests derived from the Binet and other tests were firmly anchored on the biological theories of fixed and inherited intelligence from the beginning. This was partly due to the influence of Cattell, a student of Galton who, unlike Binet, propounded the biological theories. Cattell, was a pioneer in the intelligence testing in American schools. The biological theories of intelligence also flourished in America because American culture was receptive to the idea of fixed and inherited intelligence at the turn of the century. This was a period when large waves of immigrants from eastern and southern Europe were identified and treated as belonging to an "inferior race." This belief was shared by American scientists and laymen alike. For example, Dr. Harry Laughlin, the

American geneticist who provided Congress with the scientific evidence to support the argument for restricting these immigrants, believed, according to Kraus (1966: 92) that there are "natural inborn hereditary mental and moral differences." This belief inevitably led to the conclusion of his study, namely, that eastern and southern European immigrants had "a higher percentage of inborn socially inadequate qualities than do the older stocks." When applied to these immigrants the intelligence tests proved what everyone believed: that eastern and southern Europeans had inferior intelligence; and it was generally interpreted that their inferior intelligence was fixed and inherited. (Alland 1973).

During the same period the intelligence tests were also used to validate prior existing beliefs about the mental inferiority of Blacks (Mayo 1913; Pyle 1915; Brigham 1923; See Bond 1966: 310-324). The belief that Blacks were mentally inferior had existed since the days of the American slavery. Thomas Jefferson and John C. Calhoun, for example, firmly believed that Blacks were mentally inferior to Whites and therefore did not consider Blacks to be as educable (Johnson 1930: 224). Unlike the European immigrant groups, however, Blacks have not been permitted to achieve better social and occupational roles or to assimilate. They remain now as they did at the turn of the century, a separate group defined as an inferior race in American folk and scientific theories.

The third, and perhaps the most compelling, reason for dissatisfaction with the prevailing heredity and environment hypotheses lies in three types of cross-cultural studies which cast doubt on their claims, particularly on the heredity

hypothesis. The first type of cross-cultural evidence comes from studies of pariah minorities in various societies. In spite of the significance which both the hereditists and the environmentalists attach to the issue of Black-White differences in IQ and in spite of the sophistication in their research techniques, it is surprising that American psychologists have made little effort to test their hypotheses in other contemporary cultures where pariah groups exist. In any case, where such studies have been carried out either by nationals of these countries or by foreign scholars, these studies generally reveal that the minority groups score lower than the majority group members in intelligence (IQ) tests and in scholastic achievement tests. This remains true whether the minority group studied belongs to the same race as the majority group as in Japan and Israel or whehter they belong to different races as in Britain and New Zealand. Studies in Israel show that Oriental Jews rank considerably below the European Jews in IQ, scholastic achievement, and admission to prestige secondary schools (Guttman 1963; Ortar 1967; Patai 1968; Smilasky 1967). All reports show that the Eta of Japan consistently score below the majority Ippan in intelligence tests (DeVos 1967). New Zealand studies also show the Maori scoring significantly below the Pakeha in intelligence tests (Ausubel 1961; Lovegrove 1964; Ritchie 1957). The same is true in Britain where the children of West Indian immigrants and other nationalities score lower than the Anglo-English children in IQ and standardized achievement tests and are disproportionately represented in the classes for the educationally subnormal (ESN) (See Goldman et al 1966; Haynes 1971).

The second type of cross-cultural data which lends no support for the heredity hypothesis comes from the performance of different social classes in such countries as the United States, Britian, Israel, Japan, and New Zealand. The middle classes in these countries perform more like one another compared with the lower class in the respective country. Does the fact that the middle classes of the majority groups in these countries perform so much alike mean that they are more genetically related to one another than they are to the lower class of their respective country? Finally, studies of non-Western peoples indicate marked differences in the IQ test scores of people with some Western education. The differences in IQ of these two groups cannot be attributed to heredity since they developed within a single generation. (See LeVine 1970; DeVos and Hippler 1968). These cross-cultural findings cast doubt on the hypothesis that Black-White differences in intelligence are due to heredity.

Procedure

Before presenting my approach to the problem I shall discuss such basic concepts as intelligence, IQ, and environment. In doing this I will point out some of the inadequacies in the environment hypothesis. I will then comment in some detail on the heredity thesis, specifically on three issues raised in Jensen's work, namely, those of (a) hereditability of Black-White IQ differences, (b) the genotypic basis of Black-White differences in cognitive styles, and (c) the genotypic basis of Black-White social and economic inequality. Jensen's

work deserves this particular attention for a number of reasons. First, he, unlike other hereditists, deals directly with Black-White differences in IQ. Second, he has provided the most elaborate and systematic attempt to explain Black-White differences in IQ in terms of innate racial differences. Third, his work has the potential of reinforcing the forces that determine Black-White differences in IQ and school performance even though Jensen claims that his intention is to find ways to help Blacks achieve equality with Whites. Following a presentation of the alternative structural approach I will discuss some of its practical implications.

THE CRUCIAL CONCEPTS: INTELLIGENCE, IQ, AND ENVIRONMENT

One of the main reasons why the hereditists and the environmentalists are unable to resolve their differences about the forces which determine cognitive skills has to do with the way they define such crucial concepts as intelligence, IQ, and environment. For example, they define intelligence and environment too narrowly to make it difficult to use these concepts in cross-cultural studies or in studies of stratified groups in complex societies. It is therefore necessary to begin by redefining these concepts.

Intelligence

Neither the hereditists nor the environmentalists are trained to appreciate the cognitive functioning of peoples from different cultural backgrounds. They

subscribe to what Cole and his associates (1971) have called the "ability theory" of intelligence or cognition. According to this theory, "intelligence is like a genealogical tree, with the generalized intelligence (the g-factor) at the base; above it are many specialized types of abilities (e.g. verbal, numerical, spatial-perceptual, memorizing, reasoning, mechanical, and the like). (See Jensen 1969:11; Vernon 1969:21). Some individuals and groups develop better or more intellectual skills than others in both the generalized and specialized areas. Other assumptions in this theory are that IQ tests accurately measure intelligence; that hereditability can be inferred from IQ test scores; and that the skills sampled by the IQ tests are more or less universal, i.e. mental abilities that can be found in all human populations with some variations according to genetic endowments. Depending on such genetic endowment or/and environmental stimulation some individuals and groups develop better or more intellectual skills than others in both the generalized and specialized areas. The way in which individuals and groups perform on IQ tests indicates their levels and types of mental abilities. The "ability theory" of cognition makes no allowance for the fact that IQ tests may evoke in testees from different cultural backgrounds cognitive skills and strategies different from those intended by the testers (Cole et al 1971: xii).

Cross-cultural studies indicate, however, that contrary to the "ability theory", differences in environments tend to generate different types of cognitive problems. As a result there is a tendency for different cultures to encourage

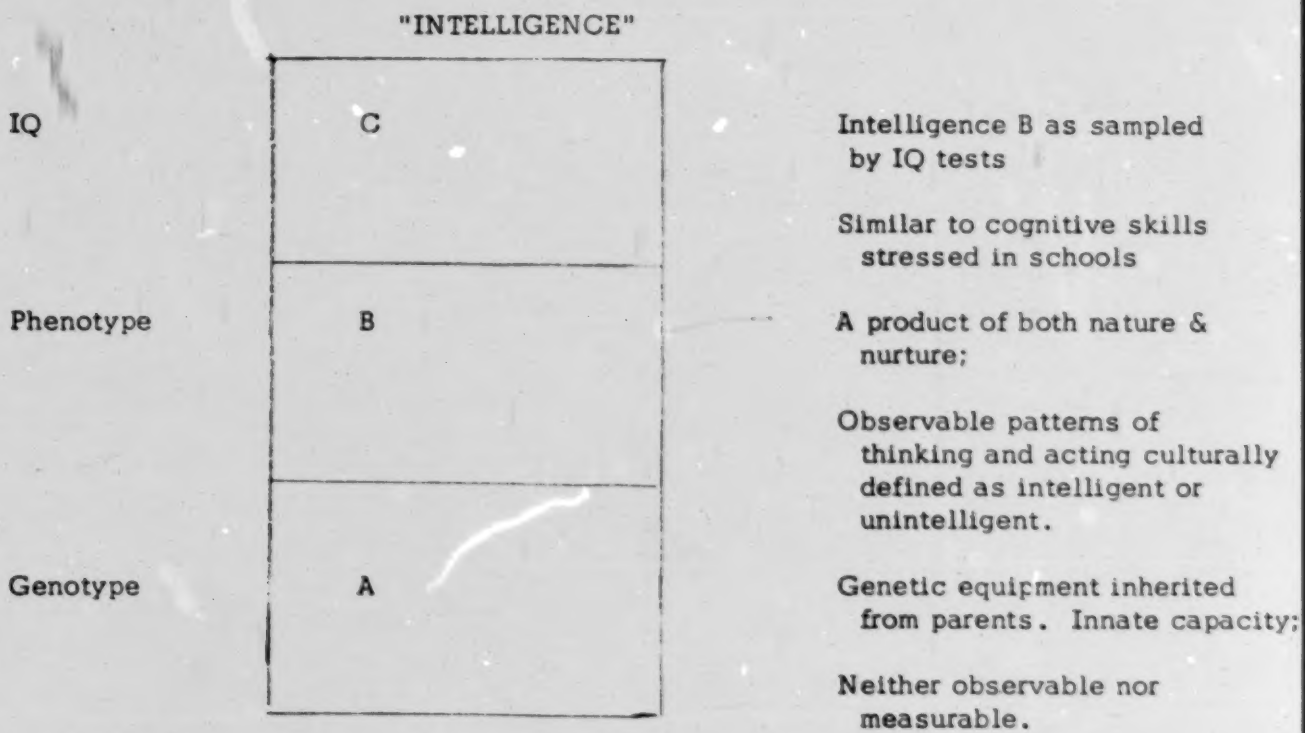
the development and use of different types of cognitive skills and strategies (See Cole et al 1971; DeVos and Hippler 1968; LeVine 1970; Segall et al 1966). The cognitive problems posed by the techno-economic environment of Western societies require cognitive skills and strategies which involve grasping relations and symbolic thinking, and these according to Vernon (1969:10), have come to permeate to some extent all the abilities manifested at school, work and daily life. Other cultures require and stimulate the development and use of different cognitive skills for coping with their environments, i.e. the members of these cultures possess different "intelligences." Thus, whatever may be the differences in the underlying genetic equipment for mental abilities or cognitive skills, cross-cultural studies seem to indicate that cognitive skills developed and used by the members of a culture are related to the nature of the cognitive problems which they have to solve.

To summarize: intelligence, as used by psychologists may be a technical term (Jensen 1969:5), but since the term is used to determine the fate of infinite numbers of people it must be defined within the context of people's experiences. Intelligence is not a universal faculty: the observed differences in intelligent or cognitive behavior (e.g. such as manifested in IQ tests) are primarily due to differences in the types of cognitive tasks which the environment of the people poses for them.

BEST COPY AVAILABLE

IQ

Psychologists, of course, do not agree about the meaning of intelligence (i.e. IQ), except that it can be measured and that it can predict scholastic performance. Intelligence, ~~accordingly~~, is what intelligence tests measure (Jensen 1969:5-9). I would suggest, however, that Vernon's distinction between Intelligence A, B, and C (see sketch) may be a good way to look at the relationship between IQ and the cognitive skills which characterize members of a given culture (Vernon 1969:9-14).



Schematic representation of analytic categories of Intelligence.

Intelligence A and B correspond to the geneticist's distinction between the genotype and the phenotype. Intelligence A, the genotype, is the innate capactiy which the child inherits from his ancestors through the genes and which determines the limits of his mental or cognitive growth. Similarly, for members of a given culture Intelligence A represents their genetic potential for cognitive growth. But there is no way in which anyone can directly observe or measure Intelligence A (Vernon 1969:9).

Intelligence B, the phenotype, refers to the observed behavior in a manner considered intelligent or unintelligent by members of the culture. It is a product of both nature (genetic equipment) and nurture (environmental factors). Intelligence B varies from one cultural group to another because different cultures require and stimulate the development and use of different types of cognitive skills for coping with their specific environmental problems. Intelligence B is not fixed; it may rise or fall with changes in environment, education, or personality of the group or individuals. Vernon suggests that in Western societies Intelligence B has probably increased in the last one hundred years as a result of industrialization and urbanization. Technological and other changes in the Soviet Union in the last sixty years may also have increased their Intelligence B. And under the impact of Western education, technology and urbanization some African and Asian peoples have acquired some cognitive skills characteristic of Western societies (See Cole et al 1971; LeVine 1970; Vernon 1969).

Intelligence C, in Vernon's distinction, refers to those cognitive skills usually sampled by IQ tests. These are, of course, aspects of the cognitive skills that make up Intelligence B. But Intelligence C differs from Intelligence B in that (a) the skills sampled by the IQ tests may be selected to serve a particular function, such as to predict scholastic performance; (b) Intelligence C is more scientific and more objective than Intelligence B (everyday observation) because IQ test items are carefully selected and standardized; and (c) Intelligence C is more circumscribed, since it excludes some important cognitive skills which do not predict scholastic performance or other specific tasks. Thus IQ or Intelligence C may not correspond to what members of the culture consider intelligent or unintelligent behavior or thinking.

In contemporary Western cultures IQ tests are constructed to measure certain aspects of Intelligence B which are vital to solving problems associated with industrialization, bureaucracy, urbanism, and the like. That the cognitive skills tapped by these tests are those which Western cultures emphasize in their formal education and therefore correlate with doing well in school has been pointed out by a number of writers (Alland 1973; Brookover and Erickson 1965; Gartner and Riesman 1973; Jensen 1969; Kagan 1973). IQ tests, then, are constructed to show how well children in Western cultures learn those cognitive skills which are required for their successful participation as adults in the techno-economic organization of their societies. If a people who lived in an

arctic or tropical forest environment and made a different sociocultural and economic adaptation were to construct an intelligence test, they would probably include psychological tasks which would measure those cognitive skills and strategies required for effective adaptation to their environment, rather than the tasks which tap the cognitive skills emphasized in contemporary Western tests of intelligence. According to LeVine (1970), in NonWestern cultures, Western IQ tests tend to measure mainly those cognitive skills which enable members of the culture to participate effectively in Western schools and not the skills and strategies which they have developed in order to adapt effectively to their own traditional environment.

To what extent is Intelligence C (i.e. IQ) an index of Intelligence A (i.e. genetic equipment)? That is, to what extent is IQ determined by heredity? There seems to be no empirical evidence at the moment for any precise answer to this question. What is observed in everyday life (Intelligence B) and in IQ test scores (Intelligence C) is the phenotype, not the genotype (Vernon 1969:13). And no one has been able to show that particular genes determine particular cognitive skills. For, as Alland (1973:176) points out, "Divergent behavioral phenotypes could emerge from the same basic genotype through environmental shaping just as similar phenotypes could arise from different genotypes conditioned in different ways."

To summarize: the term intelligence is probably a misleading concept with which to designate cognitive skills which we know vary from one culture to another,

depending on the cognitive tasks posed by the people's environment. The observed mental traits or cognitive behavior in a group (including their IQ test scores) appear to be determined more by the cognitive tasks posed by the environment than by the genetic potential. In any case, no one can say precisely the amount of genetic influence.

Environment

Both hereditists and environmentalists agree that environment influencing cognitive development consists of prenatal factors as well as certain traits which characterize individuals, families, and neighborhoods (See Deneberg 1970; Hunt 1969; Jensen 1969; Kagan 1973; Maya 1971; Vernon 1969). Usually, however, the socioeconomic status of a child's parents is considered the major environmental factor in his cognitive development. The socioeconomic status of the family is said to determine the quantity and quality of the child's interaction with other members of his family as well as the material resources available to him. Both of these can facilitate or impede the child's cognitive development. (Hunt 1969: 207-208). From this perspective some people develop better or more intelligence or cognitive skills because they come from a rich environment and receive more and better "stimulation." But this is a narrow definition of environment which comes primarily from laboratory studies of animals (Deneberg 1970; Hunt 1961; 1969). As a result it fails to include significant forces in human environment affecting development of cognitive skills.

It is true that the family is an important aspect of the child's environment and plays a key role in the transmission of cognitive skills. But those skills which the family transmits have their origin in the broader society -- in the ecological, social, and ideological or supernatural features of the society. It is these features which pose the cognitive problems to be solved by the group to which the child belongs by developing appropriate cognitive skills and strategies. I suggest that we designate the family as "micro environment" and the relevant features of the wider society as the "macro environment." The macro environment determines the cognitive skills typical of a given population, although the micro environment (i.e., the family) transmits such skills to the individual members of the culture.

All features of the macro environment do not exert equal force in generating cognitive problems for members of a culture. Ecological pressures appear to be primary. In order to adapt successfully to their physical environment people must develop an effective means of exploiting that environment. This involves both the invention of appropriate tools and techniques for such exploitation and the development of appropriate social structure or institutions, ideology and individual behavior patterns (Goldschmidt 1971: 5, 13). Two cultures which follow different modes of exploitation, (e.g. herding and agriculture) although occupying the same physical environment, are likely to be faced with different cognitive problems. Likewise in modern industrial societies stratified groups tend to possess different ecological adaptations, although their adaptations are related to techno-economic rather than to the physical features of the society. In such a society a group which is largely confined to unskilled manual labor is faced with a different type of cognitive tasks compared with another group which is engaged largely in professional or white-collar work. The two groups tend, therefore, to develop different cognitive skills and strategies. In both groups, of course, the family is one of the media through which the child acquires the necessary cognitive qualities he must have to adapt successfully in adult life. The school is another. Furthermore, as the child grows older and begins to interact directly with other institutions of the wider society his acquisition of the cognitive qualities characteristic of his group is reinforced by his personal experiences and growing awareness of their relevance for his adult life.

To summarize: The genetic potential for cognitive skills exists in every group and probably varies from one group to another. But the observable and measurable cognitive skills characteristic of a given group depends largely on the cognitive tasks to be solved by the members of a given culture in order to adapt to their environment successfully rather than on the genetic potential of the group. This suggests that the environment which influences the development of the cognitive skills of a group in a society should be more broadly defined than the hereditists and the environmentalists have done in their attempt to explain Black-White differences in cognitive behavior. I have suggested that the term "macro environment" should be used to designate those features of the entire society (e.g. technoeconomic organization of modern industrial society like the United States) which generate the cognitive problems to be solved by members of the society. That is, the macro environment largely determines what cognitive skills hall be dominant in a group. The micro environment (e.g. the family, and even the school) may be more correctly seen as the medium through which the members of the culture acquire the necessary or adaptive cognitive skills. In a stratified society like the United States, techno-economic adaptation tends to vary from one group to another (e.g. Blacks versus Whites). So do the adaptive cognitive skills which are transmitted by the micro environment of each group.

A CRITIQUE OF JENSEN'S HEREDITY THEORY

If the observable, measurable cognitive skills are culture-specific and if the environmental forces influencing these skills within a culture include major forces outside the family, it becomes difficult to accept Jensen's explanation of that Black-White differences in IQ are largely due to heredity.

There is some evidence that genetic factors may account for differences in IQ among individuals (See Jensen 1969; Vandenberg 1971; Vernon 1969). This evidence comes from two types of studies: one is the study of similarity in IQ of (a) children and their parents, either biological or foster, (b) identical twins raised together or apart, and (c) identical and fraternal twins (Vandenberg 1971: 184-198). The other type of research is the study of gene-controlled differences in individual intelligence, such as the effects of inbreeding, of mutant genes, and of chromosomal abnormalities on intelligence (ibid: 198-212). It is doubtful, however, that the findings of these studies are sufficient to warrant the generalization that 80 percent of a person's intelligence is inherited and 20 percent due to environment. The macro environments in which these twins were raised, primarily in Britain and the United States, are more or less homogeneous. Vernon (1969:13) has suggested that "If the twins were raised in a much wider range of environments, say between Western middle-class families and African or Indian peasant or Australian aboriginals the proportion of heredity and environment influences would be about 50-50 percent or even reversed." Burt, upon whose

twin studies Jensen relied for his calculations of heredity, has also recently suggested, on the basis of cross-cultural studies of his students and of Vernon, that the hereditability of IQ may be much less than he had previously supposed (Burt 1969).

Genetic or Social Heriditability of Black-White IQ Differences?

Genetic factors which cause individual differences in cognitive skills or IQ within the Black population are probably the same as those which cause individual differences within the White population. But the same factors do not necessarily cause Black-White differences in cognitive skills or behavior. I do not mean by this that Blacks and Whites may not differ in their genetic equipment for cognitive development. Vandenberg (1971:203-204), reports, for instance, that one gene which causes mental deficiency, Phenyketonuria (PKU), is known to occur more frequently in the White than in the Black population. I only wish to point out that I have found no research which shows that specific genes linked to lower IQ are found in higher proportion among Blacks than among Whites. Nor have studies shown that specific genes which control conceptual and abstract thinking are found in higher proportion among Whites than among Blacks. There are, in short, no studies which have empirically demonstrated that gene-controlled deficiencies in mental abilities, such as inbreeding, mutant genes, and chromosomal abnormalities, are found in higher proportion among Blacks than among Whites.

An alternative explanation (to be elaborated later) is that the performances of Black and White children on IQ tests are related to the respective positions of their groups in the techno-economic organization of American society. The fact that Blacks have traditionally been restricted to menial social and occupational roles has led them to develop cognitive skills that are compatible with such roles. Furthermore, as Blacks have traditionally not been permitted to achieve desirable social and occupational positions in American society on the basis of individual training (education) and ability, they have tended to develop attitudes and habits which militate against maximization of efforts in test situations, whether these are IQ or scholastic achievement tests. In contrast, White Americans have traditionally had access to higher social and occupational roles and have therefore developed different types of cognitive skills that are compatible with such roles and are tapped by the IQ tests.

Variation in Cognitive Styles: Heredity or Techno-Economic Adaptation?

Jensen distinguished between two levels of intelligence (IQ), one more evenly distributed among Blacks and Whites whereas the other is found in higher proportion among Whites. To recapitulate: Level I IQ, according to Jensen, is characterized by more concrete, nonabstraction thinking; Level II is characterized by conceptual and problem-solving skills, grasping relations, and symbolic thinking. He goes on to say that these two levels of mental abilities are genotypically based. The children of all social classes as well as Black and White

children possess level I abilities or intelligence (IQ) to about the same degree during their initial stages of development, but level II intelligence (IQ) tends to develop more fully in higher social classes and among Whites with increasing age (Jensen 1969:115; see also 1972:4). Blacks, according to Jensen, do not develop level II intelligence to the same degree as Whites because they lack the appropriate biological or genetic ("neural") basis for it.

I suggest that we designate Jensen's "levels" of intelligence (IQ) as types of cognitive skills. And I also suggest that the two types of cognitive skills are related to types of adaptation to the cognitive demands of the techno-economic environment of Blacks and Whites rather than to differences in "neural structures" or heredity as Jensen thinks. The middle and upper class children (mostly White) develop the second type of cognitive skills to a greater degree as they grow older because their future positions in the techno-economic organization of the society require a greater degree of mental work involving decision-making, abstract thinking, problem-solving and the like. Since Whites have traditionally had access to positions demanding mental or cognitive skills, they have evolved the second type of cognitive skills to a much higher degree than others. In contrast, Blacks who have traditionally been restricted to menial positions in the techno-economic organization of American society have not evolved the second type of cognitive skills to the same degree as Whites because their menial position has not required such skills to the same degree as

as the position of Whites. On the other hand, it is possible that Blacks also possess the second type of cognitive skills to the same degree as Whites, except that their skills are probably adapted to solving different problems which are not taken into account in the construction of the IQ tests. Just because the conceptual and problem-solving skills of a people are not directed primarily at academic performance or the requirements of the social and occupational roles from which they have been traditionally excluded does not mean that they are deficient in intelligence. For example, Sowell (1973:36) points out that Blacks are overrepresented in the abstract fields of music and language manipulation and transformation and yet these areas of Black's main contribution to American culture are not tapped by the IQ tests.

Jensen's Social Theory of Black-White Inequality

Jensen's hypothesis leads him to conclude that the social and economic inequality between Blacks and Whites is due to genetic differences. He first notes that there is a high correlation between IQ and scholastic performance as well as a high correlation between IQ and socioeconomic status. He then states that one's socioeconomic status is determined primarily by one's IQ (Jensen 1969:76). He points out that people with high IQ are concentrated in the most desirable roles. Blacks, he says, are disproportionately represented both in the low IQ group and in the least desirable social and occupational roles, whereas Whites are heavily represented in the high IQ group and in the most desirable

roles. From these observations Jensen concludes that Blacks occupy lower social and occupational positions because they have low IQ which prevents them from doing well in school and thereby moving into the best positions in society. Thus Black-White inequality is due to genetic differences (Jensen 1969:76-79).

Jensen's conclusion about Black-White inequality in the social and economic realms is based on a false assumption about social mobility among Blacks in American society. He states, for instance, that American society "values and rewards individual talent and merit" among Blacks as well as among Whites, and therefore that any differences in social mobility must be due to "genetic factors" (ibid:76). But this does not represent the Black experience since Blacks, as I have stated earlier, have traditionally not been permitted to achieve desirable social and occupational roles even when they have had high IQ and high educational qualifications. That is, for Blacks, social mobility in American society has not been a matter of individual training (education) and ability.

The disproportionate representation of Blacks in both low IQ groups and in low socioeconomic status groups is due to two factors: American racial stratification and techno-economic adaptation. In the racial stratification system Blacks are a pariah group and are held in the least desirable social and occupational roles <u>because they are Blacks rather than because they do not have the education to qualify them for higher positions</u>. Blacks and Whites usually occupy two different techno-economic environments and therefore, they have probably

developed different types of cognitive and other skills compatible with their respective positions. Thus Blacks and Whites differ in their cognitive behavior, as sampled by the IQ tests, partly because their respective places in the techno-economic organization require and stimulate different types of cognitive skills, and partly because the IQ tests probe primarily those skills that are adaptive to the techno-economic position of Whites rather than those of Blacks.

In general efforts to explain Black-White differences in IQ either by the heredity hypothesis or the environment hypothesis prove unsatisfactory partly because the proponents of these views define their concepts too narrowly to be useful in the study of group differences and partly because they fail to recognize the unique position of Blacks in American society. I have suggested that the concepts of intelligence, IQ and environment should be redefined. Environment should be more broadly defined to include the techno-economic forces in society, which appear to exert determinate influence on the patterns of cognitive skills developed within a given population. With these considerations in mind, I reject Jensen's hypothesis that Black-White differences in IQ are genetically based. My alternative hypothesis is that differences in types of cognitive skills which Blacks and Whites manifest in IQ tests are due to adaptations to different cognitive requirements of their respective places in American society, especially in the techno-economic organization. I shall now present this proposition in some detail.

STRUCTURAL BASIS OF BLACK-WHITE DIFFERENCES IN IQ

Black performance in IQ tests (i.e. cognitive behavior) is due to adaptation to their traditionally menial positions in American society. That is, they have developed cognitive qualities which are congruent with their menial positions and such cognitive skills are probably different from those developed by White Americans who occupy more desirable social and economic positions. Moreover, the cognitive skills characteristic of Blacks are not necessarily those which the IQ tests are constructed to tap. Black-White cognitive differences have both the historical and structural origins.

Blacks As A Pariah Minority Group

Although Blacks share minority status with other groups, theirs is unique and the failure to recognize this uniqueness and its educational implications often leads to meaningless comparisons of Blacks with other American minority groups (Jensen 1972). As a first step in delineating this uniqueness in Black status I have attempted elsewhere (Ogbu 1974b) to classify the minority groups into autonomous, pariah/caste, and immigrant minorities. This typology is based partly on variation in the minority-majority relationship. Blacks belong to the second type, i.e. they are a pariah minority group.

Pariah minorities are regarded by the dominant group as inherently inferior and they usually rank lower than the dominant group in all aspects. They are

politically and economically subordinated, a position usually rationalized by an overarching ideology concerning their inferiority. As a pariah group Blacks have been traditionally identified with the least desirable social and occupational roles from which they have not been allowed to advance freely to the more desirable positions on the basis of individual training and ability. Although in the past few decades their social and economic conditions have improved, such improvements have come about usually in times of national crises or emergencies such as during the First and Second World Wars, and so forth. In contrast to the majority group and some other minorities, the relative progress of Blacks has usually been achieved as a result of group rather than individual efforts. A fuller understanding of their status and its implications for cognitive behavior requires a close look at the American caste system.

Caste As The Organizing Principle Of Black-White Stratification

A number of scholars have suggested that Black-White stratification in the United States is organized along the principle of caste (Berreman 1960, 1966a; Dollard 1957; Davis and Gardner 1965; Lyman 1973; Mack 1968; Warner 1965, 1962). Black-White stratification satisfied Berreman's definition of a caste as a hierarchy of endogamous groups whose membership is determined permanently at birth, (1966a:279). The basis of ranking the White caste as superior and the Black caste as inferior is skin color or socially defined "race."

There are some other scholars, however, who object to this approach, arguing that the phenomenon of caste is probably unique to India (Cox 1945; Dumont 1961; Johnson 1966). Most Americans prefer to think of American racial stratification in terms of its behavioral manifestations. They focus their analysis on "issues," such as restrictions on sex relations, marriage, and housing; job and other economic discriminations; segregation in public schools, public facilities and social clubs; and the like. Instead of recognizing these practices as expressions of a common structural principle they often prefer to explain them in terms of "racial prejudice," a psychodynamic phenomenon characteristic of individuals rather than social structure; "racial prejudice" is in turn explained as resulting from errors in socialization and faulty personality development (Lyman 1973:91). The implication of this mode of thinking for Black education is that Black-White differences in school performance are rarely analyzed as a consequence of racial stratification, a concept which does not even appear in most of the influential literature on this problem (EEOS 1966; Jencks 1972; Jensen 1972, 1973; Mosteller and Moynihan 1972). The dominant orientation is to emphasize the social class basis of educational differences.

There seem to be two sources of resistance to the analysis of American racial stratification in terms of caste. One is the extension of the experiences of certain European immigrant groups as a universally applicable variable. Thus, the proponents of the theory of "race-relations cycle" argue that every group in

the United States, including Blacks, will eventually be assimilated into the dominant White group. It is acknowledged, of course, that Black assimilation may be somewhat slower than most (Shibutani and Kwan 1965). Pervading egalitarian ideology (based mainly on White experiences) and myths about individualism provide the second basis of resistance to the caste approach. Such myths and ideology, Maquet (1971) correctly observes, form a screen that prevents its wearers from seeing the system that underlies their own behavior conforming to superiority and inferiority roles.

For my purpose it is more useful to analyze Black-White stratification in terms of caste. Berreman has clearly demonstrated that features which are often said to make caste unique to India are also found elsewhere, including the United States (Berreman 1966a: 295-304). He has also shown that caste stratification differs from class stratification in many important respects which are quite relevant to our study of Black-White differences in school performance (Berreman 1972:398-399). Perhaps more important for our analysis is that Blacks not only rank lower than Whites in the caste system but also constitute a pariah caste. Pariahs are a denigrated group excluded from major institutions of the social structure although required to perform important social and economic functions for society (Berreman 1966a:292-295; Bohannon 1963: 183-184, 205-206). According to Bohannon, the evolution of Black status as a pariah group began after their emancipation from slavery, especially at the end of the Reconstruction.

To prevent free and equal competition with Whites for the scarce goods of society, the freed slaves and all who could be recognized as Black came to be redefined as pariahs. In the South their pariah status was established by law and custom, and outside the South by extra-legal mechanisms (van den Berghe 1967). As a pariah caste Blacks are comparable to the Harijan (Ex-Untouchables) of India and the Eta of Japan (Berreman 1966a).

The caste organization of Black-White stratification leads to divergent development in the socialization and education of the two races. As caste groups Blacks and Whites have tended to occupy different worlds which require different attitudes, values, personality and behavioral patterns. In order to produce the kinds of people who will adapt to such different worlds the caste system requires different modes of raising children in the two groups, i.e. the institutionalization of differences in socialization and education. I now turn to the way in which this specifically affects the development of cognitive skills and cognitive behavior.

Black pariah status in the American caste system has two implications for the cognitive skills manifested by Blacks, especially as indicated by their performance in IQ tests. The first has to do with the quality -- the types of cognitive skills developed by Blacks. The second has to do with the quantity of cognitive skills which they express in IQ tests.

Qualitative Aspect of Black Cognitive Skills

As I stated earlier, the cognitive skills which are developed by members of a culture are primarily those which are required for successful adaptation to their environment. In modern industrial societies this environment is the techno-economic organization. Different levels in the techno-economic organization tend to require and stimulate different qualities, including cognitive qualities, in the participants. For example, factory workers differ from professional workers in cognitive skills partly because factory work requires different cognitive skills and strategies compared with professional, white-collar work. Working class parents tend to transmit to their children those qualities which have proved adaptive to their situation, although this is not necessarily done consciously. Kohn's observations (1969) about the childrearing practices of working-class parents may throw some light on this point. According to Kohn, lower-class parents who work in factory or other lower-grade jobs are often expected to obey orders rather than make decisions or take initiative on their jobs like bureaucratic and professional parents. Consequently the working-class parents develop values and skills which are congruent with the demands of their work situations and which, to a large extent, influence the way they raise their children. For instance, they often insist that their children do as they are told rather than try, as middle-class parents, to understand why their children behave the way they do. And working-class parents, unlike middle-class parents, do not encourage their children to learn to make choices in appropriate situations.

Now, Kohn's description of the techno-economic influences on the child-rearing behavior of the working-class parents applies even more to Black parents who are predominantly unskilled laborers. The traditional restriction of Blacks to menial social and occupational roles for several generations must have resulted in types of values and cognitive skills which are adaptive to their pariah roles. These skills probably correspond to what Jensen calls "level I intelligence", i.e. the more concrete, nonabstraction type of thinking. In contrast, White Americans have traditionally had access to the types of social and occupational roles that require a greater degree of mental work involving decision-making, abstract thinking, problem-solving and the like. As a result, Whites must have evolved to a greater degree what Jensen calls "level II intelligence", i.e. the second type of cognitive skills. These cognitive skills are acquired by Blacks and Whites not only in the family and in schools but also as the child grows older he acquires them through direct contact with the institutions of the wider society. Thus as the middle and upper class White children grow older they tend to acquire the second type of cognitive skills to a greater degree because they become increasingly aware that their future positions in society, especially the techno-economic organization of American society require such cognitive skills. In contrast, Black children do not perceive their future positions as requiring such skills and they are not motivated to acquire the second type of cognitive skills. But, I must qualify this statement by referring to a point I previously made,

namely, that Blacks may well possess to the same degree the second type of cognitive skills but that theirs are not directed toward scholastic performance and/or are not tapped by the present IQ tests.

Quantitative Aspect: Lower IQ scores Among Blacks

The reason why Blacks score lower than Whites on IQ tests also lies in their structural position in the caste system. I have suggested elsewhere (Ogbu 1974b) that the Black-White caste stratification not only results in two different class systems, but also leads to two systems of social mobility, one Black and the other White. The status or social mobility system of each caste influences its performance in school, including the performance in IQ tests. The status mobility of White Americans which is based on individual training and ability encourages initiative, competition, and the motivation to maximize one's score in test situations. In the field of education White social mobility is built around the myth that more education means higher social status, better self-esteem, more employment opportunities, better jobs, and better salary (See Berg 1969; Blair 1971; Parsons 1968).

Blacks, on the other hand, have traditionally been excluded from the more desirable social and occupational roles. They have also been prevented from competing freely as individuals for such roles on the basis of their training and ability. Blacks have also traditionally received inferior education which made it difficult for them to compete successfully for such roles. Furthermore, within

the stratification system customs, and sometimes laws, have dictated that Blacks should defer to Whites rather than compete with them for better positions in society. And as Black children grow up they learn not to compete with Whites. In general social or status mobility among Blacks is not based on individual efforts as it is among Whites. This has led to the evolution of the belief that it is no use competing actively with Whites, even in school. It follows that in test situations, whether involving IQ or other types of schoolwork, Black children do not generally seek to maximize their scores; but such a withdrawal is largely unconscious. I have found in my own research that Black children fail in their schoolwork often from lack of serious efforts rather than because they cannot perform a given task (Ogbu 1974a). I suggest therefore, that Blacks tend to score low on IQ tests partly because they do not make serious efforts to maximize their scores, i.e. because of cultural attitudes toward work.

CONCLUSION

I wish to conclude by pointing out that both the heredity hypothesis and the environment hypothesis fail to take into account the cognitive implications of the unique position of Blacks as a pariah group in American society. Although approaching the problem of Black-White differences in IQ from opposing sides, both hypotheses regard the individual as the unit of analysis and make the assumption that the factors which cause individual differences within the Black

caste and within the White caste probably explain the cognitive differences between the Black and the White castes. This type of assumption is probably inevitable in view of the way in which such crucial concepts as intelligence, IQ, and environment, are defined in the two hypotheses.

I have suggested how these concepts could be redefined so as to make them more applicable to cross-cultural studies and to studies of stratified groups in modern industrial societies. I have also argued that the performance of Blacks in IQ tests is related both to the types of cognitive adaptation they have made to their pariah position in the American techno-economic organization and to the limitations imposed by their system of social mobility on the attitudes and habits required by test situations.

The performance of Blacks can, therefore, be seen as a kind of adaptation which has evolved over many generations. The adaptation involves all social classes within the Black caste, although various classes are not affected to the same degree. As I have noted earlier, caste and class are two different but co-existing principles of stratification with different educational implications. But while there are class differences within the Black caste in attitudes and behavior, differences between Blacks and Whites are caste rather than class in origin. There are also some variations by sex. At all socioeconomic levels and at all age levels but especially with increasing age Black females score higher than Black males in IQ tests. I suggest that the sex differences in the

performance within the Black caste is due to the fact that American society, while it discriminates against all Blacks, gives preferential treatment to Black females over the males in matters of jobs, income, and material rewards, as well as favorable stereotypes.

In recent years, some legal changes have occurred in the status of the Black caste regarding education, jobs, wages, and so forth. In the area of jobs, for instance, various Executive Orders, Fair Employment Practices Legislation, and Civil Rights Acts have been enacted at the federal, state, and local government levels to eliminate discrimination based on ascriptive status (Means 1968; Hill 1968). However, discrimination remains widespread as a symptom of thepersistence of the caste stratification previously described.

Recognizing that some differences exist within the Black caste, and that some recent changes in American society have, to some extent, brought social and eocnomic improvements to Blacks, the adaptation described here still affects Black cognitive behavior in two principal ways: (a) Blacks are still characterized by the patterns of cognitive skills which they evolved in response to their traditional menial social and occupational roles and (b) their traditional inability to achieve social mobility through individual training and ability leads to withdrawal from active competition for maximum academic success, including maximization of IQ test scores.

The hypothesis presented here suggests a new direction of intensive research. There are almost no studies which have tried to inquire into the relationship between Black cognitive skills and the cognitive requirements of Black roles in American society. Nor have studies tried to probe how Black cognitive behavior in IQ tests relates to their system of social mobility. Furthermore, most studies of Black socialization and education tend to evaluate the efficacy of these practices in terms of the standards of the White middle class as if the education and socialization of the two groups are directed toward the same goals. Often the social policies resulting from these kinds of studies have been in the direction of substituting the White middle-class practices for those of the Black caste without changing the goals of the behaviors in question. The hypothesis presented above suggests that changes in the wider society which enable Blacks (a) to occupy similar social and occupational roles in society on the basis of their training and ability and (b) to achieve social mobility through individual initiative and competition rather than through White patronage, would eventually lead to alteration in their cognitive behavior.

BIBLIOGRAPHY

L'Abate, Luciano, Yvonne Oslin, & Vernon W. Stone
1973 "Educational Achievement." In Dreger and Miller above. pp. 325-354

Alland, Alexander, Jr.
1973 Human Diversity. Garden City: Anchor Press/Doubleday

Ausubel, David P.
1961 Maori Youth: A Psychoethnological Study of Cultural Deprivation. New York: Holt, Rinehart and Winston, Inc.

Berg, Ivar
1969 Education and Jobs: The Great Training Robbery. New York: Praeger.

van den Berghe, Pierre
1967 Race and Racism: A Comparative Perspective. New York: John Wiley and Sons, Inc.

Berreman, Gerald D.
1966a "Caste in Cross-Cultural Perspective Organizational Components." In George DeVos and Hiroshi Wagatsuma, eds: Japan's Invisible Race: Caste in Culture and Personality. Berkeley and Los Angeles: University of California Press. pp. 275-307.

Berreman, Gerald D.
1960 "Caste in India and the United States." The American Journal of Sociology, LXVI: 120-127

Berreman, Gerald D.
1966b "Concomitants of Caste Organization." In George DeVos and Hiroshi Wagatsuma, eds: Japan's Invisible Race: Caste in Culture and Personality. Berkeley and Los Angeles: University of California Press. pp. 308-324

Blair, Philip M.
1971 Job Discrimination and Education: An Investment Analysis. New York: Praeger Publishers.

Bohannon, Paul
1963 Social Anthropology. New York: Holt, Rinehart and Winston.

Horace Mann Bond
1966 The Education of the Negro In The American Social Order. New York: Otagon Books, Inc.

Brigham, Carl C.
1923 A Study of American Intelligence, Princeton: Princeton University Press.

Brookover, Wilbur B. & Edsel L. Erickson
1965 Society, Schools, and Learning. Boston: Allyn and Bacon, Inc.

Burt, Sir Cyril
1969 "Intelligence and Heredity," In New Scientist 1:226-228

Cole, Michael, John Gay, Joseph A. Glick and Donald W. Sharp
1971 The Cultural Context of Learning and Thinking: An Exploration in Experimental Anthropology. New York: Basic Books.

Cox, Oliver
1945 "Race and Caste: A Distinction." American Journal of Sociology 50:360-368.

Allison Davis, Burleigh B. Gardner and Mary R. Gardner
1965 Deep South: S ocial Anthropological Study of Caste and Class. Abridged Edition. Chicago: The University of Chicago Press.

Denenberg, Victor H.
1970 Education of the Infant and Young Child. New York: Academic Press.

Deutsch, M.
1967 The Disadvantaged Child. New York: Basic Books.

DeVos, George A. and Arthur Hippler
1969 "Cultural Psychology: Comparative Studies of Human Behavior." In G. Lindzey and E. Aronson, eds.: Handbook of Social Psychology, vol. lv. Cambridge, Mass: Addison-Welsey.

DeVos, George and Wagatsuma, Hiroshi
1967 "Minority Status and Attitudes Toward Authority," In DeVos and Wagatsuma, eds. Japan's Invisible Race Berkeley and Los Angeles: University of California Press.

Dollard, John
1957 Caste and Class in a Southern Town, 3rd. ed.: Garden City: Doubleday Anchor Books.

Dreger, Ralph Mason
1973 "Intellectual Functioning," In Kent S. Miller & Ralph Mason Dreger, editors. Comparative Studies of Blacks and Whites in the United States. New York: Seminar Press. pp. 185-229

Dumont, L.
1961 "Caste, Racism and 'Stratification'. Reflections of a Social Anthropologist." Contributions to Indian Sociology, no. 5. October 1961, pp. 20-43

EEOS
1966 Equality of Educational Opportunity Washington D. C.: U. S. Printing Office

Garrett, H. E.
1971 Heredity: The Cause of racial Differences in Intelligence. Kilmarnock Virginia: Patrick Henry Press.

Gartner, Alan and Frank Riessman
1973 "The Lingering Infatuation with I.Q.": A Review of Arthur R. Jensen's Educability and Group Differences. Unp. Ms.

Goldman, R. J. and Francine M. Taylor
1966 "Coloured Immigrant Children: A Survey of Research, Studies and Literature on the Educational Problems and Potential-in Britain," Educational Research 8: 163-183

Goldschmidt, Walter
1971 "Introduction: The Theory of Cultural Adaptation." In Robert B. Edgerton: The Individual In Cultural Adaptation: A Study of Four East African Peoples. Berkeley and Los Angeles: University of California Press. pp.1-22

Guttman, Ruth
1963 "A Test for a Biological basis for Correlated Abilities." In The Genetics of Migrant and Isolated Populations. Proceedings of a Conference on Human Population Genetics in Israel, Held at Hebrew University, Jerusalem. Elisabeth Goldschmidt, ed. pp. 338-339

Haynes, Judith
1971 Educational Assessment of Immigrant Pupils. London: The National Foundation for Educational Research in England and Wales.

Hill, Herbert
1968 "Twenty Years of State Fair Employment Practices Commissions: A Critical Analysis with Recommendations." In Louis A. Ferman, Joyce L. Kornbluh, and J. A. Miller, eds.: Negroes and Jobs: A Book of Readings. Ann Arobr: The University of Michigan Press. pp. 496-522

Hunt, J. McV
1961 Intelligence and Experience. New York: Ronald Press.

Hunt, J. McV
1969 The Challenge of Incompetence and Poverty: Papers on the Role of Early Education. Urbana: University of Illinois Press.

Ingle, D. J.
1970 "Possible Genetic Bases of Social Problems: A Reply to Ashley Montagu." Midway 10:105-121.

Inner London Education Authority
1967 The Education of Immigrant Pupils in Primary Schools. The ILEA Report. London.

Jencks, Christopher
1972 Inequality: A Reassessment of the Effects of Family and Schooling in America. New York: Basic Books.

Jensen, Arthur R.
1969 "How Much Can We Boost I.Q. and Scholastic Achievement?" In Harvard Educational Review, Reprint Series No.2. pp.1-123.

Jensen, Arthur R.
1971 "The Race x Sex x Ability Interaction," In Robert Cancro, ed.: Intelligence: Genetic and Environmental Influences. New York: Grune and Stratton. pp. 107-161

Jensen, Arthur R.
1972 Senate Select Committee on Education Statement of Dr. Arthur R. Jensen. February 24, 1972. Unp. Ms.

Jensen, Arthur R.
1973 Educability and Group Differences. New York: Harper and Row, Publishers.

Charles S. Johnson
1930 The Negro In American Civilization: A Study of Negro Life and Race Relations in the Light of Social Research. New York: Henry Holt & Co.

Johnson, Charles S.
1966 Shadow of the Plantation. Chicago: University of Chicago Press. Phoenix Books.

Kagan, Jerome
1973 "What Is Intelli[illegible]e?" Social Policy. 88-94 July/August 1973

Kohn, Melvin L.
1969 "Social Class and Parent-child Relationships: An Interpretation:" In Rose Laub Coser, ed.: Life Cycle and Achievement in America. New York: Harper and Row. pp. 21-48

Kraus, Michael
1966 Immigration, The American Mosaic. Princeton, N.J.: van Nostrand. An Anvil Original.

LeVine, Robert A.
1970 "Cross-Cultural Study in Child Psychology." In P. Mussen, ed.: Carmichael's Manual of Child Psychology, third ed. vol. 2 pp. 559-612

Lovegrove, M.
1964 "Maori Underachievement," in Journal of the Polynesian Society. Wellington vol. 73:70-72

Lyman, Stanford M.
1973 The Black American in Sociological Thought: A Failure of Perspective. New York: Capricorn Books.

Mack, R.
1968 "Functions of Institutionalized Discrimination." In R. Mack, ed.: Race, Class, and Power, New York: The American Book Company. 2nd edition, pp. 341-344.

Maquet, Jacques
1971 Power and Society in Africa. New York: World University Library.

Mayo, M. J.
1913 "The Mental Capacity of the American Negro," Archives of Psychology 5: 109-146

Means, John E.
1968 "Fair Employment Practices Legislation and Enforcement in the United States." In Louis A. Ferman, Joyce L. Kornbluh, and J. A. Miller, eds.: Negroes and Jobs: A Book of Readings. Ann Arbor: The University of Michigan Press. pp. 458-496

Mosteller, Frederick and Moynihan, Daniel P. eds.:
1972 On Equality of Educational Opportunity. New York: Random House.

Ogbu, John U.
1974a The Next Generation: An Ethnography of Education in an Urban Neighborhood. New York: Academic Press.

Ogbu, John U.
1974b Black School Performance as An Adaptation. New Haven: Unp. Ms.

Ortar, Gina R.
1967 "Educational Achievements of Primary School Graduates in Israel As Related to their Socio-cultural Background," In Comparative Education 4:23-34.

Patai, Raphael
1968 Cultures in Conflict: Three Lectures on the Sociocultural Problems of Israel and Her Neighbors. New York: Herzl Institute Pamphlets 1.

Parsons, Talcott
1968 "The School Class as a Social System: Some of Its Functions in American Society." Harvard Educational Review, Reprint Series, No. 1:69-90

Pyle, William Henry
1915 "The Mentality of the Negro Child Compared with Whites." Psychology Bulletin 12:12, 17

Ritchie, Names E.
1957 "Some Observations on Maori and Pakeha Intelligence Test Performance," In Journal of the Polynesian Society. vol. 66:351-356

Segall, M. H., M. J. Herskovits, and D.T. Campbell
1966 The Influence of Culture on Visual Perception. Indiana: Bobbs-Merrill

Shibutani, Tamotsu and Kwan, Kian M.
1965 Ethnic Stratification: A Comparative Approach. New York: The Macmillan Co.

Smilansky, Moshe and Sarah
1967 "Intellectual Advancement of Culturally Disadvantaged Children: An Israeli Approach for Research and Action," In International Review of Education 13:410-429

Sowell, Thomas
1973 "Arthur Jensen and His Critics: The Great I.Q. Controversy," In Change, May 1973:33-37

Vandenberg, Steven G.
1971 "What Do We Know Today About Inheritance of Intelligence and How Do We Know It?" In Robert Cancro, ed." Intelligence: Genetic and Environmental Influences. New York: Grune and Stratton. pp.183-218

Vernon, P. E.
1969 Intelligence and Cultural Environment. London: Methuen and Co.

Warner, W. Lloyd
1962 "A Methodological Note." In St. Clair Drake and Horace R. Cayton, Black Metropolis: A Study of Negro Life in a Northern City. Volume 2. New York: Harcourt, Brace & World, Inc. A Harbinger Book. pp.769-782

Warner, W. Lloyd
1965 "Introduction: Deep South-A Social Anthropological Study of Caste and Class." In Allison Davis, Burleigh B. Gardner and Mary R. Gardner, Deep South: A Social Anthropological Study of Caste and Class. Chicago: University of Chicago Press, Phoenix Books, pp. 3-14